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PATENT APPLICATION

Attorney Docket: 54391

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

Applicant:	Ward
Serial No.:	9/655,987
Filed:	9/6/2000
For:	Composition for Protecting Work Surfaces from Contamination
Group Art Unit:	1774
Examiner:	Dicus, Tamra

BRIEF FOR APPELLANT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

This is an appeal from the decision of the Primary Examiner dated 6/4/2004, finally rejecting Claims 1-8 and 19-28 in the above-identified patent application.

I. REAL PARTY IN INTEREST

The real party in interest is Calvin B. Ward.

II. RELATED APPEALS AND INTERFERENCES

There are presently no other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal at this time.

III. STATUS OF THE CLAIMS

Claims 1-8 and 19-28 are currently pending in the above-identified patent application. In the Office Action dated 6/4/2004, the Examiner rejected Claims 9-18 and indicated that the Action was final.

IV. STATUS OF AMENDMENTS

No amendments have been entered after the final rejection discussed above,

V. SUMMARY OF THE INVENTION

The present invention is directed to using a novel laminate to protect a surface by placing this sheet in contact with the surface. Refer to Figure 1 and the discussion thereof that begins at line 4 of page 3 of the specification. Sheet 10 is constructed from an electrostatically charged sheet 11 having a top and bottom surface and an absorbent layer 12. The absorbent layer has top and bottom surfaces, the bottom surface of the absorbent layer being bonded to the top surface of the electrostatically charged sheet. The absorbent layer is divided into a plurality of cells 14 for containing liquid spilled on the absorbent layer. The absorbent layer can be constructed from paper, open cell foam, a fibrous mat, or any other absorbent material. In one preferred embodiment, the cells are constructed by providing hydrophobic barriers 13 in the absorbent layer. The barriers can be constructed from paraffin, plastic, or any other material that can penetrate the absorbent layer. Referring to Figure 2, a hydrophobic layer 21 is bonded to the top surface of the absorbent layer. The hydrophobic layer has a plurality of pores 22 that allow liquid spilled on the hydrophobic layer to penetrate the hydrophobic layer and be absorbed by the absorbent layer.

VI. ISSUES

A. Are Claims 19 and 27 unpatentable under 35 U.S.C. 103(a) over USPN 5,804,512 to Lickfield, *et al* (hereafter "Lickfield") in view of USPN 4,613,544 to Burleigh?

B. Are Claims 20 and 23 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of USP 5,730,922 to Babb, *et al* (hereafter "Babb")?

C. Are Claims 21 and 28 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of USP 4,828,582 to Hermann?

D. Is Claim 22 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Hermann and further in view of USP 5,807,366 to Milani?

E. Is Claim 24 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Babb and further in view of Milani?

F. Is Claim 25 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of USP 6,261,679 to Chen, *et al* (hereafter "Chen")?

G. Is Claim 26 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of USP 3,838,692 to Levesque?

H. Are Claims 1-3 and 7 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Chen?

I. Is Claim 4 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh, and further in view of Chen and further in view of Milani?

J. Is Claim 5 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Chen and further in view of Babb?

K. Is Claim 6 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Chen and further in view of Babb and further in view of Milani?

L. Is Claim 8 unpatentable under 35 U.S.C. 103(a) over Lickfield in view of Burleigh and further in view of Chen and further in view of Levesque?

M. Are Claims unpatentable 1-3, 5, 19-21, 23 and 27-28 under 35 U.S.C. 103(a) over Babb in view of Hermann and further in view of USP 4,613,544 to Burleigh?

N. Are Claims 4, 6, 22, and 24 unpatentable under 35 U.S.C. 103(a) over Babb in view of Hermann and further in view of Burleigh and further in view of Milani?

O. Are Claims 7 and 25 unpatentable under 35 U.S.C. 103(a) over Babb in view of Hermann and further in view of Burleigh and further in view of Chen.

P. Are Claims 8 and 26 unpatentable under 35 U.S.C. 103(a) over Babb in view of Hermann and further in view of Burleigh and further in view of Levesque.

VII. GROUPING OF CLAIMS

The claims are to be considered in the following 4 groups:

A. Claims 19, 20, 21, 23, 27

B. Claims 1-3, 5, 7, 25, and 28

C. Claims 4, 6, 22, and 24

D. Claims 8 and 26

VIII. ARGUMENT

A. Examiner's Burden under 35 U.S.C. 103

To sustain a rejection under 35 U.S.C. 103, the Examiner must show that the combined references teach each of the elements of the claim or that there is some motivation in the art for altering one of the teachings to arrive at the combined set of teachings. "The mere fact that a reference could be modified to produce the patented invention would not make the modification obvious unless it is suggested by the prior art." (*Libbey-Owens-Ford v. BOC Group*, 4 USPQ 2d 1097, 1103). "When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference" (*In re Rijckaert*, 28 USPQ2d, 1955, 1957). In addition, the Examiner must show that there is some motivation in the art that would cause someone of ordinary skill to combine the references, and that in making the combination, there was a reasonable expectation of success. Where the claimed subject matter has been rejected as obvious in view of a combination of prior art references, a proper analysis under section 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have

revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure. *In re Vaeck*, 20 USPQ2d 1438, 1442(CAFC 1991).

B. Rejection of Claims 19, 20, 21, 23, 27

Claim 19 requires a water-impermeable electrostatically charged sheet and an absorbent layer in contact with that sheet. All of the rejected claims require these two elements, and hence, if these rejections are not sustained all of the remaining rejections are also invalid. The remaining claims in this group are dependent from Claim 19.

1. Rejection in view of Lickfield, Burleigh, and Babb.

Lickfield teaches a composition used to wrap instruments that are to be sterilized. The composition is a three layer sheet having a fibrous electret as the middle sheet (layer 12 of Lickfield) and an absorbent sheet(layer 14) as one of the outside layers. The Examiner admits that Lickfield does not teach that layer 12 is water-impermeable. The Examiner looks to Burleigh for the missing teaching.

Burleigh teaches a water-impermeable sheet that will pass only water vapor for use in making fabrics for clothing, camping, etc. The sheet does not pass gasses or liquids (Column 5, lines 1-10). The sheet has channels running between the top and bottom surfaces. The channels are filled with a hydrophobic material. The Examiner argues that it would be obvious to use the sheet of Burleigh in the composition of Lickfield. The Examiner points to the passage at column 3, lines 45-50 as providing the motivation. The cited passage is reproduced below:

Referring now to the drawing, in particular FIG. 1, there is depicted a waterproof, unitary sheet material 10 prepared in accordance with the present invention. Sheet material 10 comprises microporous matrix 11 having continuous pores 12 extending through its thickness which are filled with a moisture-vapor permeable, water-impermeable, hydrophilic material 13.

According to the Examiner, this passage states that water sticks to the walls of the pores. Applicant can find no such reference in the passage. Furthermore, even if Burleigh were to teach that the composition includes the properties that water sticks to walls of the pores, Applicant fails to see how this is advantageous in the composition taught in Lickfield.

However, for the sake of argument, assume that one was motivated to substitute the sheet of Burleigh for layer 12 in the composition of Lickfield. First, Applicant must point out that the Examiner has not pointed to any teaching that the sheet of Burleigh can be electrostatically charged. The ability to charge the sheet will depend on the specific materials used to fill the pores of the sheet. Second, there would be no reason to charge the sheet, even if it could be charged. Lickfield uses the charged fibrous matt to trap bacteria while still passing gases. The sheet of Burleigh already blocks particulate material including bacteria and viruses. Hence, there would be no reason to charge the sheet.

Finally, the resultant composition would not work for the purposes to which the Lickfield invention is directed. Lickfield teaches a material that can be used to package objects that are to be sterilized. The packaged articles are then sterilized and kept in the package until used. The packaging must therefore allow the objects therein to be sterilized. Lickfield teaches both steam and ethylene oxide sterilization schemes. The first method requires the wrap to pass gas to prevent the heated gas trapped in the wrapped article from expanding and causing the wrap to rupture. The second method requires gaseous ethylene oxide to penetrate the wrap. In either case, the sheet of Burleigh would not provide the required property with or without an electrostatic charge. Hence, there is no reasonable expectation of success in utilizing the sheet taught in Burleigh in the wrap taught in Lickfield.

Accordingly, Applicant submits that the Examiner has not made a prima facie case for obviousness with respect to Claim 19. First, the Examiner has not pointed to any teaching that would cause one of ordinary skill to use the sheet of Burleigh in the composition of Lickfield. Second, even if one were to make the substitution, the sheet would need to be modified to include an electrostatic charge. The Examiner has not pointed to any teaching that such a modification is possible. In addition, the Examiner has not pointed to any teaching that would cause someone to make the modification. Finally, even if one were to

make the modification and substitution, the resulting composition would not function for its intended purpose, and hence, there is no reasonable expectation of success.

The Examiner looks to Babb for the teaching of various types of materials for the absorbent layer, and hence, Babb is not relevant to the issue of the patentability of Claim 19 in this rejection.

2. Rejection in view of Babb in view of Hermann and further in view of Burleigh.

Babb teaches a composite laminate sheet having a layer of polymeric material attached to a porous material. The Examiner maintains that the layer of polymeric material is electrostatically charged. The Examiner points to the passages in columns 13 and 14 referring to corona discharge treatment as evidence that the polymeric material is electrostatically charged. Applicant must disagree with the Examiner's reading of the passage in question. The passage refers to improving the adhesion of the polymer layer to a substrate by corona treating the **substrate** prior to the deposition of the polymeric material. There is no teaching in the reference that the substrate is left in a charged state after the treatment, no less that the subsequently deposited polymeric layer is electrostatically charged after the deposition of the polymeric material.

The Examiner also points to the teaching that the polymeric material can be applied by electro-spraying as evidence of an electrostatically charged polymeric layer. Electro-spraying involves charging the substrate to be coated to attract the droplets of the coating material. Once again, there is no teaching in the reference that the resultant polymeric layer is electrically charged at the end of the deposition process.

The Examiner has not pointed to any teaching in Hermann or Burleigh that provides the missing teaching. Accordingly, Applicant submits that the Examiner has once again failed to make a *prima facie* case for obviousness with reference to Claim 19.

C. Rejection of Claims 1-3, 5, 7, 25, and 28

Claims 1 and 25 add the limitation that the absorbent layer is divided into a plurality of cells for containing liquid within the boundaries of said cells, said liquid being prevented from moving between said cells. Claims 7 and 28 add the limitation that the boundaries are hydrophobic. The remaining claims in this group are dependent from one of these claims.

1. Rejection in view of Lickfield in view of Burleigh and further in view of Chen or Hermann.

Applicant repeats the arguments made above with reference to the missing teachings in Lickfield and Burleigh. The Examiner admits that these references do not teach that the absorbent layer is divided as recited above. The Examiner looks to Chen for the missing teaching. The Examiner states that Chen discloses absorbent hydrophobic foam-fiber composites having a cell structure where other nonwoven layers can be attached at col. 14, lines 12-35 and Figs 1-3. The Examiner maintains that these structures meet the limitations of Claim 1.

Applicant must disagree with the Examiner's reading of Chen. While Chen teaches a foam-fiber composite that has hydrophobic fibers as struts for maintaining the foam from collapsing, there is no teaching the foam layer taught therein is divided into cells having boundaries that prevent liquid from moving between the cells.

In addition, the Examiner's motivation for utilizing the absorbent layer of Chen in the laminate of Lickfield is likewise flawed. The Examiner maintains that one would make the substitution because the resultant laminate would have the advantages of wet resiliency, effective absorption of fluids, maintaining integrity and shape, providing flexibility, conformability, and softness. The advantages of the foam taught in Chen lie in its ability to absorb large quantities of liquid while maintaining its integrity and other properties. First, the laminate taught in Lickfield is designed as a packaging material for objects that are being sterilized. Absorption of liquid is only desirable to the extent that steam from the sterilization process condenses on the package. Hence, additional absorption is not needed. Furthermore,

the Examiner has not pointed to any teaching in Chen that the materials taught therein would withstand the temperature and chemical environments inherent in the sterilization process.

Hermann teaches an open-cell foam for dispensing various active ingredients. There is no teaching in Hermann of the foam having barriers that divide into cells in which liquid cannot pass from one cell to the other. In fact, it is a characteristic of open cell foams that liquid can pass from one cell to the other. The Examiner has not pointed to any teaching in Hermann of any additional boundaries that delineate other forms of cells within the layer. Accordingly, there are additional grounds for allowing these claims and the claims dependent therefrom.

2. Rejection in view of Babb in view of Hermann and further in view of Burleigh or Chen.

Applicant repeats the arguments made above with respect to the missing teachings in the rejection of Claim 19. The Examiner looks to Hermann for the teaching of a sheet of foam that is divided into cells that satisfy the new limitation introduced in Claim 1. Hermann teaches an open-cell foam for dispensing various active ingredients. There is no teaching in Hermann of the foam having barriers that divide into cells in which liquid cannot pass from one cell to the other. In fact, it is a characteristic of open cell foams that liquid can pass from one cell to the other. The Examiner has not pointed to any teaching in Hermann of any additional boundaries that delineate other forms of cells within the layer.

The Examiner also argues that Burleigh teaches a structure that has hydrophilic materials contained in cells and liquid impermeable barriers to absorb water on one side of the material. The structure taught in Burleigh passes water from one side to the other by using the differential vapor pressure on the two sides to cause the water to evaporate on one side, pass through the sheet as water vapor, and condense back into liquid on the other side. The cells do not contain liquid within the boundaries of the cells. In fact, the goal of the sheet taught in Burleigh is to prevent liquid or gases from passing through the film with the exception of water vapor.

As noted above, Chen does not teach a foam structure that meets the limitations of these claims. Accordingly, Applicant submits that the Examiner has not shown that the combination of the cited references teaches all of the limitations of the claims in question.

D. Rejection of Claims 4, 6, 22, and 24

These claims add the additional limitation that the absorbent layer is also electrostatically charged in addition to limitations on the type of material used in the absorbent layer.

1. Rejection in view of Lickfield in view of Burleigh, further in view of Chen, Babb, Hermann or Milani.

Applicant repeats the arguments made above with respect to the missing teachings in the references other than Milani. Milani does not provide the missing teachings.

Milani teaches a method for making an article having a gradient of particle sizes therein. In particular, Milani teaches that the distribution of the particles can be controlled by charging the particles to a first charge and charging the absorbent article to a second charge that may be the same polarity or opposite polarity to the first charge. The Examiner maintains that one would be motivated to charge the absorbent layer in Lickfield because Milani teaches that it provides liquid barrier functionality and liquid distribution improvements.

Applicant must disagree with the Examiner's reading of Milani. Milani provides an absorbent article with unique functionalities by trapping the absorbent particles in the absorbent matrix. Both the particles and the matrix must be charged to provide the benefits. The improvements in functionality depend both on the nature of the particles and the matrix. Since the particles that are to be trapped in the Lickfield invention are bacteria and viruses, there is no way to charge the particles in question, and hence, practice the invention of Milani.

Furthermore, there would be no reason to charge both the inner sheet and the absorbent sheet in the invention of Lickfield. The inner sheet, i.e., layer 12, is already charged and provides the particle trapping function. Charging layer 14 or 16 would provide no additional benefit in terms of trapping particles. Furthermore, the Lickfield invention is designed to be porous to water and various gases. Hence, providing a liquid barrier function as suggested by the Examiner would prevent the invention from performing its intended use.

Finally, the Examiner has not pointed to any teaching that the absorbent matrix remains charged after it is loaded with the particles in question. The functionality of that matrix depends on the particle distribution in the matrix. The charging is merely used to distribute the particles in the desired manner. Accordingly, Applicant submits that there are additional grounds for allowing these claims over the cited references.

2. Rejection in view of Babb in view of Hermann and further in view of Burleigh and still further in view of Milani.

Applicant repeats the arguments made above with respect to the missing teachings in the cited references other than Milani. Milani does not provide the missing teachings. The Examiner maintains that it would be obvious to provide an electrostatically charged absorbent layer in the laminate of Babb for the same reasons stated above with reference to the rejection in view of Lickfield, etc.

The laminates described in Milani already have a liquid barrier, i.e., the polymeric layer. Hence, there is no motivation for including another liquid barrier function. In addition, the Examiner has not pointed to any teaching that would allow one to conclude that the liquid distribution provided by the layer taught in Milani has any better distribution than the absorbent layers taught in Babb. Accordingly, Applicant submits that there are additional grounds for allowing these claims over the cited references.

E. Rejection of Claims 8 and 26

These claims add the additional limitation that the absorbent layer is covered by a hydrophobic layer having pores that allow liquid to pass through the layer and be absorbed by the absorbent layer.

1. Rejection in view of Lickfield in view of Burleigh, further in view of Chen, and still further in view of Levesque.

Applicant repeats the arguments made above with reference to the missing teachings in Lickfield, Burleigh, and Chen. Levesque does not provide these missing teachings.

Levesque teaches a hydrophobic barrier sheet having hydrophilic passages to allow liquid to penetrate the barrier sheet and be absorbed in an absorbent layer below the sheet. The Examiner maintains that one would be motivated to include such a layer in the invention taught in Lickfield to retain liquid in the absorbent layer taught therein.

Applicant must disagree with the Examiner's reasons for making the combination. First, improving the retention of liquid in the absorbent layers taught in Lickfield would be a disadvantage. The laminates taught therein are designed as packaging for sterilization. After sterilization, it would be disadvantageous to have liquid retained in the absorbent material because it would provide water to the bacteria trapped in the electret adjacent to the absorbent sheet. Second, including such a layer on either or both of layers 14 and 16 taught in Lickfield would not result in liquid being retained in the absorbent sheet, since the liquid would be "squeezed out through the pores" during the subsequent handling of the sterilized material. In addition, the liquid would eventually evaporate through the pores in question. Accordingly, Applicant submits that there are additional grounds for allowing these claims over the cited references.

2. Rejection in view of Babb in view of Hermann and further in view of Burleigh and still further in view of Levesque.

Applicant repeats the arguments made above with respect to the missing teachings in the cited references other than Levesque. Levesque does not provide the missing teachings.

The Examiner maintains that one would be motivated to include such a layer in the invention taught in Babb to retain liquid in the absorbent layer taught therein.

The Examiner has not pointed to any teaching in Babb that retaining liquid in the absorbent layer taught therein would be advantageous. Furthermore, as noted above, such a layer does not lead to the retention of liquid. At best, such a layer retards the evaporation of the liquid. The purpose for such barrier layers is to provide a dry surface on top of the absorbent layer. The Applicant has not pointed to any teaching in Babb that such a dry surface would be advantageous. Accordingly, Applicant submits that there are additional grounds for allowing these claims over the cited references.

VII. CONCLUSION

Applicant respectfully submits that for the reasons of fact and law argued herein, the decision of the Examiner in finally rejecting Claims 1-8 and 19-28 should be reversed.

I hereby certify that this paper (along with any others attached hereto) is being sent via facsimile to fax number: 703-872-9306

Respectfully Submitted,



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